

Notice of Allowability

Application No.

10/535,330

Examiner

Joseph D. Anthony

Applicant(s)

SADEGHI ET AL.

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 3/1/07.
2. ☒ The allowed claim(s) is/are 10-18 and 21 [renumbered as 2-10 and 1].
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Travis M. Wohlers on 3/18/07 and 3/26/07.

The application has been amended as follows:

In claim 21, line 6, delete "a" and insert therefor --an isolated--.

Claim 19 has been canceled.

2. The following is an examiner's statement of reasons for allowance:

Independent claim 21 has been amended above to require that the antioxidant B is further defined as an isolated chlorophyll. Support for this examiner's amendment is found on page 4, lines 1-13 of the specification. This said amendment was deemed necessary in order to overcome an examiner's newly found reference to Rebeiz U.S. Patent Number 3,934,369. Rebeiz teaches in vitro net biosynthesis of chlorophyll and grana involving: irradiation of etiolated plant tissue; homogenization, in an environment including available oxygen, of the tissue in a buffer comprising biosynthetic cofactors

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including coenzyme A, glutathione, potassium, inorganic phosphate, methyl alcohol, magnesium, nicotinamide adenine dinucleotide and adenosine triphosphate; isolation from the homogenate of developing chloroplasts; irradiated incubation of the isolated chloroplasts in the presence of oxygen in another buffer of a constitution similar to that above-described and including .delta.-aminolevulinic acid. Synthesized products are isolated and quantified, see abstract. The process can also employ reduced nicotinamide adenine dinucleotide (i.e. NADH) and/or reduced nicotinamide adenine dinucleotide phosphate (i.e. NADPH) in lieu of the non-reduced forms of these compounds, see column 17, lines 41-60. Rebeiz stepwise process is clearly disclosed in Rebeiz's claims 1-2. Please note that Rebeiz's claim 2 teaches isolating chlorophyll and gana from the buffer subsequent to step (d). When said chlorophyll and gana are isolated from the buffer which contains the cofactor material nicotinamide adenine dinucleotide (i.e. NAD), the resulting isolated product does NOT contain NAD (or NADH or NADPH if such cofactors materials) where used in lieu of NAD. Said isolated chlorophyll is NOT processed to undergo Rebeiz's step (d). Rather, Rebeiz's steps (c)-(d) are related to isolating developing chloroplasts from the homogenate of step (b) and subsequently, in step (d), re-irradiating the developing chloroplasts in a buffer containing nicotinamide adenine dinucleotide (i.e. NAD) to produce additional non-isolated chlorophyll, which can subsequently be isolated, but when it is isolated it will NOT be in combination with NAD.

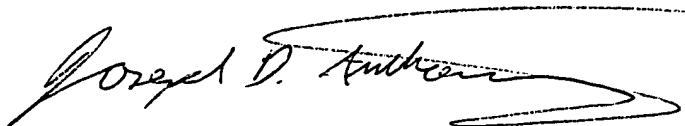
Claim 19 has been canceled because it is identical to claim 17 as filed in the amendment of 3/1/07.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Examiner Information

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (571) 272-1117. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (571) 272-1119. The centralized FAX machine number is (571) 273-8300. All other papers received by FAX will be treated as Official communications and cannot be immediately handled by the Examiner.



Joseph D. Anthony
Primary Patent Examiner
Art Unit 1714

3/26/07